Amendments to the Claims:

What is claimed is:

1. (Currently amended) A method of treating a circulatory disorder selected from the group consisting of cardiomyopathy, myocardial infarction, and congenital heart disease, comprising:

   obtaining a composition comprising an umbilical cord blood cell, wherein the composition comprising human umbilical cord blood cell has not been cultured;

   generating myocytes further comprising:

   administering an effective amount of the composition comprising an umbilical cord blood cell to an individual with a circulatory disorder, wherein the umbilical cord blood cell differentiates into a cardiac muscle cell after administration.

2. -4. (Canceled)

5. (Previously presented) The method of Claim 1, wherein the umbilical cord blood cell is administered within approximately 48 hours after the onset of the myocardial infarction.

6. (Original) The method of Claim 1, wherein the individual is a human.

7. (Original) The method of Claim 1, wherein the umbilical cord blood cell is a human umbilical cord blood cell.

8. (Original) The method of Claim 7, wherein the human umbilical cord blood cell is a mesenchymal cell.

9. (Original) The method of Claim 1, wherein the umbilical cord blood cell is administered directly to heart tissue.

10. (Original) The method of Claim 1, wherein the umbilical cord blood cell is administered systemically.

11. (Previously presented) The method of Claim 1, wherein the umbilical cord blood cell composition comprises at least about 6 million white blood cells per milliliter of administered umbilical cord blood composition.

12. (Previously presented) A method for treating a cardiac tissue scarring myocardial infarction, comprising:

obtaining a composition comprising a human umbilical cord blood cell, wherein the human umbilical cord blood cell has not been cultured;

administering the composition comprising a human umbilical cord blood cell directly to the infarcted tissue or heart tissue adjacent to the infarcted tissue of an individual having a myocardial infarction in an effective amount sufficient to produce cardiac muscle cells in the heart of the individual, wherein the umbilical cord blood cell differentiates into a cardiac muscle cell after administration.

13. (Canceled)

14. (Original) The method of Claim 12, wherein the umbilical cord blood cell is administered directly to the heart of the individual.

15. (Cancelled)

16. (Original) The method of Claim 12, wherein the human umbilical cord blood cell is a mesenchymal cell.

17. (Original) The method of Claim 12, wherein the umbilical cord blood cell is administered within approximately 48 hours after the onset of the myocardial infarction.

18. (Previously presented) The method of Claim 12, wherein the composition comprises at least about 6 million white blood cells per milliliter of administered umbilical cord blood composition.

19. (Withdrawn) A method of treating an injured tissue in an individual comprising:

(a) determining a site of tissue injury in the individual; and

(b) administering an umbilical cord blood composition into and around the site of tissue injury, wherein the umbilical cord blood composition comprises a cell that differentiates into a cardiac muscle cell after administration.

20. (Withdrawn) The method of Claim 19, wherein the tissue is cardiac muscle.

21. (Withdrawn) The method of Claim 20, wherein the umbilical cord blood composition comprises a mononuclear cell fraction isolated from human umbilical cord blood; plasma or fetal bovine serum; and DMSO.

22. (Withdrawn) The method of Claim 20, wherein the tissue injury is a myocardial infarction.

23. (Withdrawn) The method of Claim 22, wherein the differentiation into a cardiac muscle cell treats myocardial infarction by reducing the size of the scar resulting from the myocardial infarct.

24. (Withdrawn) The method of Claim 22, wherein the umbilical cord blood cell is administered within approximately 48 hours after the onset of the myocardial infarction.

25. (Withdrawn) The method of Claim 19, wherein the umbilical cord blood composition is prepared by the steps comprising:

(a) obtaining whole cord blood from a neonatal umbilical cord;

(b) enriching the cord blood for mononuclear cells; and

(c) resuspending the cord blood enriched for mononuclear cells with plasma or fetal bovine serum, and DMSO.

26. (Withdrawn) The method of Claim 25, wherein the umbilical cord blood composition comprises at least about 6 white blood cells per milliliter.